

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please cancel claims 5-8, 16, 17, 30, 31 and 34-36 without prejudice.

**Listing of Claims:**

1. (Cancelled)
2. (Cancelled)
3. (Previously Presented) A method of optimizing the transmission of a plurality of data packets across a data network at a network traffic device, each data packet having an actual length and including a header with a field giving a total length value for the data packet and a next-hop address, the method comprising:
  - receiving the data packets at the network traffic device;
  - deconsolidating any consolidated data packets, including extracting the total length value from the header, comparing the total length value to the actual length, and if the actual length is longer than the total length value, removing a segment from the front of the data packet equal in length to the total length value, and then buffering the segment
  - after deconsolidating any consolidated data packets, buffering the data packets;
  - identifying a first data packet;
  - identifying a second data packet with the same next-hop address as the first data packet;

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consolidating the first data packet with the second data packet to form a consolidated packet; and

transmitting the consolidated data packet.

4. (Previously Presented) The method of claim 3, wherein the extracting, comparing and removing are performed repeatedly until the actual length is equal to the total length value.

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Previously Presented) A method of optimizing the transmission of a plurality of data packets across a data network at a network traffic device, each data packet having an actual length and a next-hop address, the method comprising:

receiving the data packets at the network traffic device;

buffering the data packets;

identifying a first data packet, wherein identifying a first data packet includes comparing the actual length of the data packet to a maximum transmission unit;

identifying a second data packet with the same next-hop address as the first data packet;

consolidating the first data packet with the second data packet to form a consolidated packet; and

transmitting the consolidated data packet.

11. (Previously Presented) The method of claim 10, wherein identifying a second data packet with the same next-hop address as the first data packet includes checking the actual length of the second data packet and adding the actual length of the second data packet to the actual length of the first data packet to find a total length, comparing the total length to the maximum transmission unit, and not consolidating the first data packet and the second data packet if the total length is equal to or greater than the maximum transmission unit.

12. (Previously Presented) The method of claim 10, wherein the network traffic device is one of a router, bridge and switch.

13. (Previously Presented) The method of claim 10, each of the data packets having opposing ends, wherein consolidating the first data packet with the second data packet to form a consolidated packet includes joining the first data packet and the second data packet in an end-to-end manner.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Previously Presented) A method of transmitting a plurality of voice data packets across a network, each of the plurality of voice data packets having a next-hop address and including a tag identifying the packet as a voice data packet, the method comprising:

receiving data packets at a network traffic device, the data packets including plural voice data packets and plural non-voice data packets;

checking a first data packet for the tag;

after checking a first data packet for the tag, buffering each of the received data packets, wherein buffering each of the received data packets includes buffering data packets with the tag separately from data packets without the tag;

if the first data packet has the tag, then identifying a second data packet with the tag and with the same next-hop address as the first data packet;

consolidating the first data packet with the second data packet to form a consolidated packet; and

transmitting the consolidated packet.

21. (Previously Presented) A method of optimizing transmission of a plurality of data packets across a data network at a network traffic device, the network traffic device having a buffer, each of the plurality of data packets being stored in the buffer and having a next-hop address, the method comprising:

selecting a first data packet from the plurality of stored packets;

determining the next-hop address for the first data packet;

checking the size of the first data packet;

comparing the size of the first data packet to a predetermined maximum transmission unit;

if the size of the first data packet is smaller than the maximum transmission unit, then identifying a second data packet from the plurality of stored data packets with the same next-hop address as the selected data packet;

checking the size of second data packet;

adding the size of the first data packet and the second data packet to find a total size;

comparing the total size to the maximum transmission unit;

if the total size is less than or equal to the maximum transmission unit, consolidating the selected data packet and the second data packet to form a consolidated packet; and

transmitting the consolidated packet.

22. (Original) The method of claim 21, wherein selecting a data packet from the plurality of buffered data packets includes checking for an indicator contained within the data packet indicating that the data packet is to be consolidated.

23. (Original) The method of claim 22, wherein the indicator is a tag indicating the type of data contained within the packet.

24. (Original) The method of claim 22, wherein the indicator is a priority flag contained within a header of the data packet.

25. (Original) The method of claim 21, further comprising identifying a third data packet from the plurality of buffered data packets with the same next-hop address as the consolidated packet, checking the size of the third packet, and repeating the adding, comparing, and consolidating steps before transmitting the consolidated packet.

26. (Cancelled)

27. (Cancelled)

28. (Previously Presented) A network traffic forwarding system configured to optimize flow of data packets across a data network, each data packet having an actual length and a next-hop address, and including a header with a field giving a total length value for the data packet, the forwarding system comprising:

a plurality of network interface ports configured to be connected to the network to send and receive data packets;

memory configured for buffering received packets; and

a processor configured to deconsolidate any received data packets that are consolidated packets, wherein the processor is configured to extract the total length value from the header, to compare the total length value to the actual length, and if the actual length is longer than the total length value, to remove a segment from the front of the data packet equal in length to the total length value, and then to buffer the segment, and wherein, upon receipt of a first data packet by one of the plurality of network interface ports, the processor is configured to identify a second data packet buffered in the memory with the same next-hop address as the first data packet, and to consolidate the first data packet and the second data packet to form a consolidated packet for transmission across the network.

29. (Previously Presented) The network traffic forwarding system of claim 28, wherein the processor is configured to repeatedly extract, compare and remove until the actual length is equal to the total length value.

30. (Cancelled)

31. (Cancelled)

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32. (Previously Presented) A network traffic forwarding system configured to optimize flow of data packets across a data network, each data packet having an actual length and a next-hop address, the forwarding system comprising:

a plurality of network interface ports configured to be connected to the network to send and receive data packets;

memory configured for buffering received packets,; and

a processor configured, upon receipt of a first data packet by one of the plurality of network interface ports, to identify a second data packet buffered in the memory with the same next-hop address as the first data packet, and to consolidate the first data packet and the second data packet to form a consolidated packet for transmission across the network, wherein the processor is further configured to compare the actual length of the first data packet to a maximum transmission unit, and if the actual length of the first data packet is greater than or equal to the maximum transmission unit, to transmit the selected data packet without consolidation.

33. (Previously Presented) The network traffic forwarding system of claim 32, wherein the processor is further configured to check the actual length of the second data packet, to add the actual length of the second data packet to the actual length of the selected data packet to find a total length, to compare the total length to the maximum transmission unit, and not to consolidate the selected data packet and second data packet if the total length is equal to or greater than the maximum transmission unit.

- 34. (Cancelled)
- 35. (Cancelled)
- 36. (Cancelled)
- 37. (Cancelled)
- 38. (Cancelled)
- 39. (Original) An article comprising:

a storage medium having a plurality of machine-readable instructions, the instructions being configured to be executed by a network traffic device to optimize the transmission of a plurality of data packets across a data network at the network traffic device, the network traffic device having a buffer, each of the plurality of data packets being stored in the buffer and having a next-hop address, wherein execution of the instructions provides for the steps of

selecting a first data packet from the plurality of stored packets;

determining the next-hop address for the first data packet;

checking the size of the first data packet;

comparing the size of the first data packet to a predetermined maximum transmission unit;

if the size of the first data packet is smaller than the maximum transmission unit, then identifying a second data packet from the plurality of stored data packets with the same next-hop address as the selected data packet;

checking the size of first data packet;

adding the size of the first data packet and the second data packet to find a total size;

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comparing the total size to the maximum transmission unit;  
if the total size is less than or equal to the maximum transmission unit,  
consolidating the selected data packet and the second data packet to form a  
consolidated packet; and  
transmitting the consolidated packet.

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